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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/705,773 | 11/11/2003 | Shinichi Nakamura | 9319H-000587 | 4378 |

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EXAMINER

KIM, CHRISTOPHER S

ART UNIT PAPER NUMBER

3752

DATE MAILED: 04/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/705,773

Applicant(s)

NAKAMURA ET AL.

Examiner

Christopher S. Kim

Art Unit

3752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 January 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 1-3 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11/11/03; 1/7/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Invention II in the reply filed on January 12, 2005 is acknowledged. The traversal is on the ground(s) that it would not be burdensome to examine the entire application. This is not found persuasive because applicant presents no evidence to support his assertion. Upon reconsideration, the restriction requirement directed to Group III is withdrawn. Claims 15 and 16 are hereby rejoined with Group II. The restriction requirement between Group I and Group II is maintained for the reasons identified in the restriction requirement mailed on December 23, 2004.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 1-3 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on January 12, 2005

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "ejector is interposed near the cap" recited in claim 5; the "first control means for controlling the flow rate regulating valve based on a detection result obtained by the pressure detection

means" recited in claim 6; the "flow rate regulating valve" and the "suction pipeline gate valve" recited in claim 8; the "first control means closes the flow rate regulating valve and the suction pipeline gate valve when the suction of the function liquid droplet ejection head is finished" recited in claim 8; the "suction pipeline gate valve is made of a three-way valve having an atmosphere releasing port" recited in claim 9; the "first control means opens the atmosphere releasing port simultaneously with closing of the suction pipeline gate valve and opens the flow rate regulating valve again" recited in claim 9 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

4. Claims 13-16 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claims 13-16 depend from claim 4 but merely present different preamble.
5. The preamble of claims 13-16 is inconsistent with the parent claim. The claims should be presented in independent form.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
7. Claims 4-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

Claim 4 recites an "apparatus for..., said apparatus comprising." It is uncertain whether the apparatus includes the cap, function liquid ejection head; and all nozzles or merely includes the ejector and working fluid supply means. The preamble recites an intended use for a function liquid droplet ejection head but the body of the claim recites a functional relationship between the ejector and the nozzles of the function liquid droplet ejection head.

Claim 4 recites the limitation "all nozzles" in line 5. There is insufficient antecedent basis for this limitation in the claim.

Claim 4 recites a "working fluid supply means." It appears that applicant is invoking means plus function as set forth in 35 U.S.C. 112, six paragraph, but the examiner is unable to determine the scope of the means plus function recitation. Applicant is required to identify, in the specification, the scope of the means plus function recitation. Claim 10 recites "a storage tank" which appears to be a double inclusion of the working fluid supply means.

Claim 8 recites "a suction pipeline gate valve" in line 2. It appears to be a double inclusion of the "flow rate regulating valve" recited in claim 6.

Claim 11 recites the limitation "the suction apparatus" in line 6. There is insufficient antecedent basis for this limitation in the claim.

Claim 12 recites "in accordance with the plurality of function liquid droplet ejection heads." It is uncertain what standard is being defined.

Claim 12 recites "a plurality of function liquid droplet ejection heads." It appears to be a double inclusion of the "function liquid droplet ejection head" recited in claim 1.

Claim 13 recites "function liquid droplet ejection heads" in line 4. It is uncertain whether the recitation should be considered a double inclusion of the "function liquid droplet ejection head" recited in line 2.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 4-7, 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Wallace (4,362,572).

Wallace discloses an apparatus comprising: a cap 20; an ejector 14, 18; function liquid droplet ejection head 10; nozzles 28; working fluid supply means 44, 50; a pressure detection means 42; a flow rate regulating valve 44, 74; first control means 64; a suction pipeline gate valve 46; a storage tank 40.

10. Claims 4, 5, 10, 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamazaki et al. (4,296,418).

Yamazaki discloses an apparatus comprising: a cap 28; an ejector 38; function liquid droplet ejection head 14; working fluid supply means 31; a storage tank 34; a circulating pipeline gate valve 33; second control means 27.

The function recitation that the ejector "sucks all nozzles" has not been given patentable weight because it is narrative in form. In order to be given patentable

weight, a functional recitation must be expressed as a "means" for performing the specified function, as set forth in 35 U.S.C. 112, 6th paragraph.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wallace (4,362,572).

With respect to claim 8, Wallace discloses the limitations of the claimed invention with the exception of the first control means 64 closing the suction pipeline gate valve 46. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have controlled the suction pipeline valve 46 with the first control means (microprocessor) 64 in the device of Wallace for automation.

With respect to claim 9, Wallace discloses the limitations of the claimed invention with the exception of the suction pipeline gate valve being made of a three way valve. Three way valves are well known in the art. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have made the valve 64 of Wallace a three way valve to vent the device.

13. Claims 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wallace (4,362,572) or Yamazaki et al. (4,296,418).

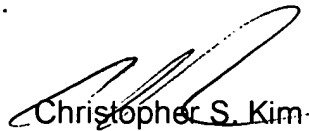
Wallace or Yamazaki discloses the limitations of the claimed invention with the exception of the plurality of function liquid droplet ejection heads. Providing a plurality of function liquid droplet ejection heads is a mere duplication of parts. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have provided a plurality of function liquid droplet ejection heads to increase the spray pattern, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher S. Kim whose telephone number is (571) 272-4905. The examiner can normally be reached on Monday - Thursday, 6:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Scherbel can be reached on (571) 272-4919. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Christopher S. Kim
Primary Examiner
Art Unit 3752

CK